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RESEARCH ARTICLE

Record of hill stream catfish *Glyptothorax telchitta* (Hamilton-Buchanan, 1822) from Paschim Medinipur district, West Bengal, India

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Abstract

Glyptothorax telchitta (Hamilton-Buchanan, 1822) is a benthic hill-stream Sisoroid catfish that inhabits the mountain waters of the Indian Himalayas and in China, Tibet and the Sunda Islands. It is also a common hill stream catfish of the northern region of West Bengal. The present work reveals that the species is available in the Shilabati river basin, Ghatal, Paschim Medinipur, West Bengal. Therefore, *Glyptothorax telchitta* (Hamilton-Buchanan, 1822) is a widely distributed hill stream species and extends to the lowland area of Paschim Medinipur district of West Bengal, India.

Keywords

Distribution, new records, Paschim Medinipur, Telchitta

Introduction

Glyptothorax Blyth, 1860, is a diverse and widely distributed genus of catfish belonging to the Sisoridae family, known from Asia Minor east and south to the Yangtze River drainage and southeast Asia (Ng and Lalramliana 2013). The genus is diagnosed as having a thoracic adhesive apparatus comprising an elliptical field

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of folded longitudinal pleats of skin, a detached distal portion of the premaxilla, and long thin lateral arms of the vomer that extend under the entire length of the articular process of the lateral ethmoid (De Pinna 1996). The number of 84 nominal species of *Glyptothorax* genus reported in Asia (Eschmeyer et al. 1998, Ng 2005), among them 67 species were treated as valid by Thomson and Page (2006). The species of the genus *Glyptothorax* are distributed in all mountain waters of India, both in the Himalayas, China, Tibet, and the Sunda Islands (Vinciguerra, 1890). The genus is very diverse in the Indian subcontinent, the number of 40 nominal species are reported (Ng and Lalramliana, 2013). Karmakar (2000) enlisted the distribution of 16 species of *Glyptothorax* in the Himalayan drainage system (Eastern Himalaya, Northeast Himalaya, Central Himalaya and Northwestern Himalaya). The number of 7 species of *Glyptothorax* reported from West Bengal (Moglekar 2017).

The previous existing type of literature such as Chanda (2020), Paul and Chanda (2014, 2017), Jana et al. (2015, 2021), Pahari et al. (2017), Kar et al. (2017), and Kisku et al. (2017) gave different fish diversity in different rivers and water bodies in the Paschim Medinipur district, but did not enlist *Glyptothorax telchitta* (Hamilton-Buchanan, 1822) in the study area.

Glyptothorax telchitta (Hamilton-Buchanan, 1822) is a species of benthic Sisoroid catfish species in the hill stream. They have an adhesive organ that is present in the thoracic region. This organ is used for attachment as a life-securing device, especially for hill-stream fish. The species was originally reported from Jungipur in West Bengal and Nathpur in Uttar Pradesh, India (Hamilton, 1822), but given the taxonomic confusion regarding this species and the fact that no type material of this species is extant, Ng (2005) designated a neotype from the Hooghly River at Kalna, West Bengal, India. *Glyptothorax botius* was previously considered a synonym of *G. telchitta* (see, e.g., Menon 1999), but Ng (2005) demonstrated the distinctiveness of the two species and revalidated *G. botius*. The present study reveals the existence of species in the lowland area of the Shilabati river basin of Ghatal, West Bengal, India, but in very few numbers is certainly the addition of fish faunal abundance of the study area.

Common name: Copper catfish, Telchitta catfish.

History of species: *Glyptothorax telchitta* was originally described as *Pimelodus telchitta* Hamilton-Buchanan (1822). A brief history of the species is given below with special reference to Indian contributions.

1822 *Pimelodus tecchitta* Hamilton-Buchanan, Fishes of the Ganges: 185, 378

1822 *Pimelodus botius* Hamilton-Buchanan, Fishes of the Ganges: 192, 378; Hora and Menon, 1949, Rec. Indian Mus., 46 (1): 57.

1877 *Glyptosternum botia* Day, Fishes of India: 497, pl. 112, Fig. 4.

1877 *Glyptosternum telchitta* Day, Fishes of India: 498, pl. 116, Fig. 2; Day, 1889, Fauna Br. India, Fishes, 1:199.

1949 *Glyptothorax telchitta* Hora and Menon, 1949, Rec. Indian Mus., 46 (1): 57, pl. 2, Figs 1, 2 & 3; Misra, 1976, Fauna of India, Pisces (2nd ed.), 3: 281, pl. 12, Figs. 2, 3 & 4.
Type species: *Pimelodus tecchitta* Hamilton-Buchanan, 1822.
Type locality: Northern River of Bengal & Bihar, India.

Methods

During recent catfish diversity surveys in the Paschim Medinipur district, *Glyptothorax telchitta* (Hamilton-Buchanan, 1822) has been collected from the Shilabati river basin (22°39'51.3"N 87°44'46.4"E & 22°39'29.9"N 87°43'51.2"E) of Ghatal, West Bengal, India. After collection, the samples were immediately preserved with 4% formaldehyde and brought to the laboratory of the Department of Zoology (PG) of Raja N. L. Khan Women's College (Autonomous). Finally, the samples were washed and preserved 6% formaldehyde in a labeling container with the registration number-RNLK/ZOO/CAT/FISH/09. The samples have been identified morphometrically and meristematically, such as body length, depth, color, color band, shape, size, fin number, fin shape, fin ray number, based on existing literature of Talwar-Jhingran 1991; Jayaram 1978, 1979, 1999, 2006, 2009, 2010 and Ng 2005.

Results

Materials examined: 1 male (6.5 cm) and 1 female (7 cm) specimens, Ghatal, Paschim Medinipur, West Bengal, India, 13.09.2019; 2 female (6 cm & 6.9cm) specimens, Ghatal, Paschim Medinipur, West Bengal, India, 21.09.2019, A. Jana.

Diagnosis. Morphological view (Fig. 1). Head depressed, spindle-shaped body. Barbels four pairs. The skin is prominently tuberculate, with ovoid tubercles particularly visible on the sides of the body. Complete and midlateral lateral line. Snout prominent, triangular. Mouth inferior. A shorter base of the adipose fin and a deeper caudal peduncle. The anterior and posterior nares are large and separated only by a base of the nasal barbel. Spindle-shaped thoracic adhesive organ (Fig. 1-D), without central pit. Caudal fin forked. Morphometric data are given in Table 1. The details about fin rays are in Table 2.

Color. The lateral and dorsal surfaces of the head and body are from brown to brownish-grey. The ventral surfaces of the head and belly are yellowish. Dorsal, anal, and pair fins with spotted bands. Pectoral, pelvic, and anal fins are hyaline. The adipose fin is brownish-grey, with a hyaline distal margin. Caudal fin hyaline, with dark brown chromatophores on median fin rays of every caudal lobe, imparting the appearance of a broad dark brown band along each lobe. Barbels brownish-grey dorsally, yellowish ventrally.

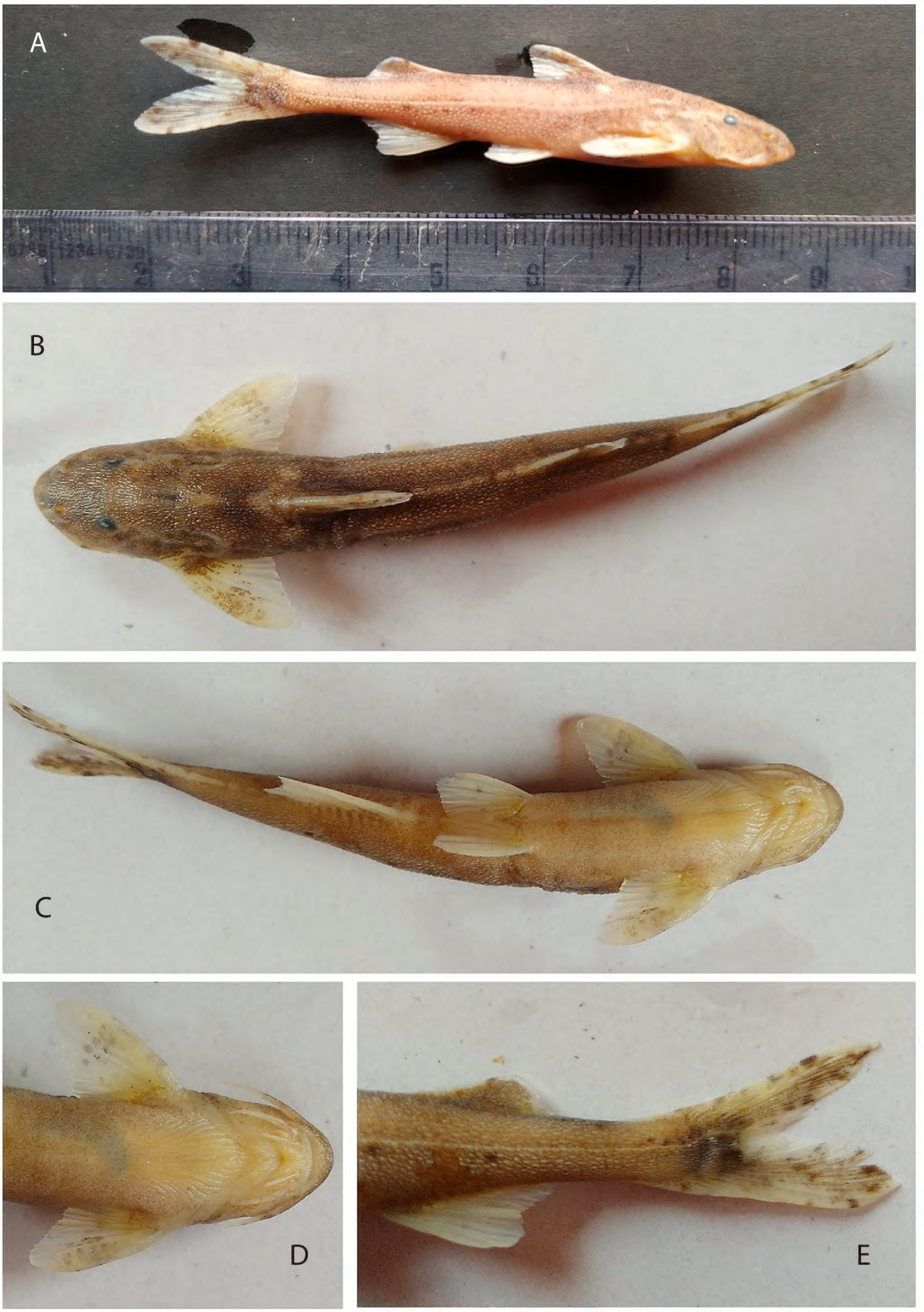

Figure 1. *Glyptothorax telchitta* (Hamilton-Buchanan, 1822): **A** – lateral view; **B** – dorsal view; **C** – ventral view; **D** – adhesive organ; **E** – caudal fin.

Habitat. They are benthopelagic and mainly live on the bottom (Bashar et al. 2009) and inhabit mainly hill streams (Talwar and Jhingran 1991).

Distribution. Global: India, China, Pakistan, Bangladesh, Nepal. **India:** Uttar Pradesh, Madhya Pradesh, Bihar, West Bengal. **Paschim Medinipur:** During the present study the species has been found in Shilabati river basin, Ghatal block of Paschim Medinipur.

Conservation status. According to IUCN this species has the least concern category (LC).

Abundance. Very low amount in the study area.

Table 1. Morphometric Data

Sl. No.	Parameters	Present study Length (mm)	% SL / % HL	(Ng, 2005) Range
1	Total length	70		
2	Standard length (SL)	56		
3	Body depth at anus	6	10.71	9.9-13.3
4	Head length (HL)	13	23.21	22.1-25.7
5	Eye diameter	1.2	9.231	8.5-10.8
6	Snout length	6.3	48.46	48.4-53.2
7	Nasal barbel length	2	15.38	12.3-20.5
8	Maxillary barbel length	6.5	50	49.7-66.2
9	Inner mandibular barbel length	3.2	24.62	23.5-32.3
10	Outer mandibular barbel length	4.5	34.62	34.6-41.1
11	Pre-dorsal length	19.5	34.82	34.0-36.6
12	Post-dorsal length	25	44.64	
13	Pre-pelvic length	25	44.64	43.8-46.9
14	Adipose dorsal length	11	19.64	
15	Caudal peduncle depth	3	5.357	4.7-5.9
16	Caudal peduncle length	11	19.64	19.2-23.8
17	Preorbital length	7	12.5	
18	Length of dorsal-fin base	6	10.71	9.4-13.7
19	Dorsal-spine length	7	12.5	11.8-14.7
20	Length of anal-fin base	8	14.29	14.5-18.3
21	Length of adipose-fin base	5	8.929	9.5-11.5
22	Post orbital length	4	0.071	
23	Length of pectoral fin	9.5	16.96	17.1-20.4
24	Pectoral-spine length	8.5	15.18	12.3-17.0
25	Length of pelvic fin	6.5	11.61	11.4-15.2
26	Length of caudal fin	14	25	22.4-30.5

Table 2. Fin rays

№	Fin rays	Present Study	Ng, 2005	Hamilton, 1822
1	Dorsal fin	I, 6	I,5, i (21) or I,6 (4)	I, 6-7
2	Caudal fin	i, 7-8	i,7,7,i (1), i,7,8,i (17) or i,8,7,i (7)	
3	Anal fin	iv, 8-9	iv,8 (1), iv,9 (11), iv,9,i (3), iv,10 (9) or iv,11,i (1)	ii, 9-10
4	Pelvic fin	i, 5	i,5 (25)	i, 5
5	Pectoral fin	I, 7	I,7,i (5), I,8 (6) or I,8,i (14)	I, 7-9

Discussion and conclusion

Currently, seven species of *Glyptothorax* are known from West Bengal, viz., *G. indicus* Talwar, 1991, *G. botius* (Hamilton, 1822), *G. gracilis* (Günther, 1864), *G. striatus* (McClelland, 1842), *G. cavia* (Hamilton, 1822), *G. radiolus* Ng and Lalramliana, 2013 and *G. telchitta* (Hamilton, 1822). After comparison of morphometric and meristematic data with Ng, 2005 and Hamilton, 1822, it is confirmed that the present specimen is the *Glyptothorax telchitta* (Hamilton-Buchanan, 1822) (Tables 1, 2). It is a very common hill stream catfish in the northern region of West Bengal. *Glyptothorax telchitta* (Hamilton-Buchanan, 1822) is different from other species of the genus *Glyptothorax*, which are commonly found in West Bengal. The differentiating characters are listed in Suppl. material 1: Table 3. This descends to the plains from the hill region in the fast-following waters during rain. The present work is the first record of the *Glyptothorax telchitta* species (Hamilton-Buchanan, 1822) from the lowland area of the Shilabati river basin, Paschim Medinipur district of West Bengal, but in very few numbers. The present report is the extension of the distributional range for the species up to the south-western part of Bengal, as well as the addition in the faunal richness of Paschim Medinipur district, West Bengal.

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Supplementary material 1

Table 3. The differentiating characters between *Glyptothorax* species found in West Bengal, India

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Data type: Morphological

Explanation note: The table shows the differentiating characters between *Glyptothorax* species found in West Bengal, India.

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